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Page 3 [Amendment Under 37 C.F.R. §1.116 (In Response To The
October 10, 2001 Office Action -- April 10, 2002)]

AMEND THE ABOVE-IDENTIFIED APPLICATION AS FOLLOWS:

In The Title:

Change the title of the invention to:

-- AN ARRAY COMPRISING A SUBSTRATE HAVING SURFACES FOR
NUCLEIC ACID ANALYSES AND APPLICATIONS, AND COMPOSITION OF
MATTER COMPRISING A PLURALITY OF SUBSTRATES HAVING SURFACES
FOR NUCLEIC ACID ANALYSES AND APPLICATIONS --.

In The Abstract Of The Disclosure:

Replace the previous Abstract with the new Abstract attached hereto as Exhibit 1.

In The Claims:

Cancel claims 718-1265.

Add new claims 1266-1575 as follows:

1266. (NEW) An array comprising a substrate having surfaces, each surface comprising at least one double-stranded nucleic acid fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface, and wherein said surfaces comprise siliceous matter or polymeric material.

1267. (NEW) The array of claim 1266, wherein said siliceous matter comprises glass.

1268. (NEW) The array of claim 1267, wherein said glass is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection or set of said plates, wells, depressions, tubes, cuvettes or beads.

1269. (NEW) The array of claim 1268, wherein said wells comprise microtiter wells.

1270. (NEW) The array of claim 1266, wherein said polymeric material is non-porous.

1271. (NEW) The array of claim 1266, wherein said polymeric material comprises plastic.

1272. (NEW) The array of claim 1271, wherein said plastic is selected from the group consisting of polyethylene, polypropylene, polystyrene and polyepoxide.

1273. (NEW) The array of claim 1271, wherein said plastic is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection or set of said plates, wells, depressions, tubes, cuvettes or beads.

1274. (NEW) The array of claim 1273, wherein said wells comprise microtiter wells.

1275. (NEW) The array of claim 1266, wherein said siliceous matter or polymeric material comprises porous glass.

1276. (NEW) The array of claim 1266, wherein said surface or surfaces have been treated with a surface treatment agent.

1277. (NEW) The array of claim 1276, wherein said surface treatment agent is selected from the group consisting of an amine compound and an epoxy compound.

1278. (NEW) The array of claim 1277, wherein said amine compound is selected from the group consisting of duodecadiamine (DDA), polylysine (PPL), γ -aminopropyltriethoxysilane, ammonium acetate and a combination of any of the foregoing.

1279. (NEW) The array of claim 1277, wherein said surface treatment agent comprises an epoxy compound.

1280. (NEW) The array of claim 1266, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized to said surface or surfaces by a means selected from the group consisting of an amine compound and an epoxy compound.

1281. (NEW) The array of claim 1266, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized directly or indirectly to said surface or surfaces.

1282. (NEW) The array of claim 1266, wherein one strand of each of said double-stranded nucleic acid strands is fixed or immobilized directly or indirectly to said surface or surfaces.

1283. (NEW) The array of claim 1266, wherein said double-stranded nucleic acid strands are fixed or immobilized to said surfaces by sandwich hybridization.

1284. (NEW) The array of claim 1266, wherein said nucleic acid strands are selected from the group consisting of single-stranded nucleic acid and double-stranded nucleic acid.

1285. (NEW) The array of claim 1266, wherein said nucleic acid strands are selected from the group consisting of DNA, RNA and a DNA-RNA hybrid.

1286. (NEW) The array of claim 1266, wherein said at least one nucleic acid strand or a sequence therefrom comprises a nucleic acid sequence complementary to a nucleic acid sequence of interest or sought to be identified or quantified or sequenced.

1287. (NEW) The array of claim 1286, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises a member selected from the group consisting of a gene or gene sequence, a pathogen or pathogenic sequence, and a combination of any of the foregoing.

1288. (NEW) The array of claim 1286, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable.

1289. (NEW) The array of claim 1286, wherein said complementary nucleic acid sequence or sequences are unlabeled.

1290. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels are the non-radioactive signaling moiety or moieties.

1291. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said substrate or said surfaces or a system or a collection or set containing said array or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1292. (NEW) The array of claim 1290, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said substrate or said surfaces or a system or a collection or set containing said array or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1293. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1294. (NEW) The array of claim 1290, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1295. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1296. (NEW) The array of claim 1290, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1297. (NEW) The array of claim 1295, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1298. (NEW) The array of claim 1296, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1299. (NEW) The array of claim 1297, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1300. (NEW) The array of claim 1298, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1301. (NEW) The array of claim 1299, wherein said bridging entity or complex is covalently or non-covalently attached.

1302. (NEW) The array of claim 1300, wherein said bridging entity or complex is covalently or non-covalently attached.

1303. (NEW) The array of claim 1301, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1304. (NEW) The array of claim 1302, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1305. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are covalently or non-covalently attached thereto.

1306. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are directly attached thereto.

1307. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are indirectly attached thereto.

1308. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1309. (NEW) The array of claim 1308, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1310. (NEW) The array of claim 1290, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1311. (NEW) The array of claim 1310, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1312. (NEW) The array of claim 1266, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive signaling moiety or moieties.

1313. (NEW) The array of claim 1290, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive chemical label or labels.

1314. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties are directly produced.

1315. (NEW) The array of claim 1314, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and a chemiluminescent compound.

1316. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1317. (NEW) The array of claim 1316, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1318. (NEW) The array of claim 1317, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1319. (NEW) The array of claim 1290, wherein said non-radioactive signaling moiety or moieties are directly produced.

1320. (NEW) The array of claim 1319, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and a chemiluminescent compound.

1321. (NEW) The array of claim 1290, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1322. (NEW) The array of claim 1321, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1323. (NEW) The array of claim 1322, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1324. (NEW) The array of claim 1266, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagenic compound, a fluorescent compound and a chemiluminescent compound.

1325. (NEW) The array of claim 1290, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagen compound, a fluorescent compound and a chemiluminescent compound.

1326. (NEW) The array of claim 1266, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1327. (NEW) The array of claim 1290, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1328. (NEW) The array of claim 1266, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1329. (NEW) The array of claim 1290, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1330. (NEW) The array of claim 1328, wherein said colored compound comprises a dye.

1331. (NEW) The array of claim 1329, wherein said colored compound comprises a dye.

1332. (NEW) The array of claim 1266, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1333. (NEW) The array of claim 1290, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1334. (NEW) The array of claim 1332, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1335. (NEW) The array of claim 1333, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1336. (NEW) The array of claim 1266, wherein said surface or surfaces are transparent or translucent.

1337. (NEW) A collection or set comprising the arrays of any of claims 1266 to 1336.

1338. (NEW) A collection or set comprising the array of claim 1266, wherein said siliceous matter or polymeric material is porous.

1339. (NEW) A collection or set comprising the array of claim 1266, wherein said siliceous matter or polymeric material is non-porous.

1340. (NEW) The collection or set of claim 1339, wherein said non-porous siliceous matter or polymeric material is transparent or translucent.

1341. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises the arrays of any of claims 1266-1336.

1342. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a collection or set of any of the arrays of claims 1266-1336.

1343. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises an array comprising a porous substrate having surfaces, each surface comprising at least one double-stranded nucleic acid fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface.

1344. (NEW) The system of claim 1343, wherein said porous substrate comprises polymeric material.

1345. (NEW) The system of claim 1344, wherein said polymeric material comprises dextran or nitrocellulose.

1346. (NEW) The system of claim 1343, wherein said porous substrate comprises porous glass.

1347. (NEW) An array comprising a substrate having surfaces, each surface comprising at least one nucleic acid strand fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface, and wherein said surfaces comprise siliceous matter or polymeric material.

1348. (NEW) The array of claim 1347, wherein said siliceous matter comprises glass.

1349. (NEW) The array of claim 1348, wherein said glass is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads and a collection or set of said plates, wells, depressions, tubes, cuvettes or beads.

1350. (NEW) The array of claim 1349, wherein said wells comprise microtiter wells.

1351. (NEW) The array of claim 1347, wherein said polymeric material is non-porous.

1352. (NEW) The array of claim 1347, wherein said polymeric material comprises plastic.

1353. (NEW) The array of claim 1352, wherein said plastic is selected from the group consisting of polyethylene, polypropylene, polystyrene and polyepoxide.

1354. (NEW) The array of claim 1352, wherein said plastic is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection of said plates, wells, depressions, tubes, cuvettes or beads.

1355. (NEW) The array of claim 1354, wherein said wells comprise microtiter wells.

1356. (NEW) The array of claim 1347, wherein said siliceous matter or polymeric material comprises porous glass.

1357. (NEW) The array of claim 1347, wherein said surface or surfaces have been treated with a surface treatment agent.

1358. (NEW) The array of claim 1357, wherein said surface treatment agent is selected from the group consisting of an amine compound and an epoxy compound.

1359. (NEW) The array of claim 1358, wherein said amine compound is selected from the group consisting of duodecadiamine (DDA), polylysine (PPL), γ -aminopropyltriethoxysilane, ammonium acetate and a combination of any of the foregoing.

1360. (NEW) The array of claim 1358, wherein said surface treatment agent comprises an epoxy compound.

1361. (NEW) The array of claim 1347, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized to said surface or surfaces by a means selected from the group consisting of an amine compound and an epoxy compound.

1362. (NEW) The array of claim 1347, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized directly or indirectly to said surface or surfaces.

1363. (NEW) The array of claim 1347, wherein said nucleic acid strands are selected from the group consisting of single-stranded nucleic acid and double-stranded nucleic acid.

1364. (NEW) The array of claim 1347, wherein said nucleic acid strands are selected from the group consisting of DNA and RNA.

1365. (NEW) The array of claim 1347, wherein said at least one nucleic acid strand or a sequence therefrom comprises a nucleic acid sequence complementary to a nucleic acid sequence of interest or sought to be identified or quantified or sequenced.

1366. (NEW) The array of claim 1365, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises a member selected from the group consisting of a gene or gene sequence, a pathogen or pathogenic sequence, and a combination of any of the foregoing.

1367. (NEW) The array of claim 1365, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable.

1368. (NEW) The array of claim 1367, wherein said non-radioactive chemical label or labels are the non-radioactive signaling moiety or moieties.

1369. (NEW) The array of claim 1367, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said substrate or said surfaces or a system or a collection or set containing said array or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1370. (NEW) The array of claim 1368, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said substrate or said surfaces or a system or a collection or set containing said array or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1371. (NEW) The array of claim 1367, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1372. (NEW) The array of claim 1368, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1373. (NEW) The array of claim 1371, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1374. (NEW) The array of claim 1372, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1375. (NEW) The array of claim 1373, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1376. (NEW) The array of claim 1374, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1377. (NEW) The array of claim 1375, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1378. (NEW) The array of claim 1376, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1379. (NEW) The array of claim 1377, wherein said bridging entity or complex is covalently or non-covalently attached.

1380. (NEW) The array of claim 1378, wherein said bridging entity or complex is covalently or non-covalently attached.

1381. (NEW) The array of claim 1379, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1382. (NEW) The array of claim 1380, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1383. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are covalently or non-covalently attached thereto.

1384. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are directly attached thereto.

1385. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are indirectly attached thereto.

1386. (NEW) The array of claim 1367, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1387. (NEW) The array of claim 1386, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1388. (NEW) The array of claim 1368, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1389. (NEW) The array of claim 1388, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1390. (NEW) The array of claim 1367, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive signaling moiety or moieties.

1391. (NEW) The array of claim 1368, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive chemical label or labels.

1392. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties are directly produced.

1393. (NEW) The array of claim 1392, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1394. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1395. (NEW) The array of claim 1394, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1396. (NEW) The array of claim 1395, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1397. (NEW) The array of claim 1368, wherein said non-radioactive signaling moiety or moieties are directly produced.

1398. (NEW) The array of claim 1397, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1399. (NEW) The array of claim 1368, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1400. (NEW) The array of claim 1399, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1401. (NEW) The array of claim 1400, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1402. (NEW) The array of claim 1367, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagenic compound, a fluorescent compound and a chemiluminescent compound.

1403. (NEW) The array of claim 1368, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagen compound, a fluorescent compound and a chemiluminescent compound.

1404. (NEW) The array of claim 1367, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1405. (NEW) The array of claim 1368, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1406. (NEW) The array of claim 1367, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1407. (NEW) The array of claim 1368, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1408. (NEW) The array of claim 1406, wherein said colored compound comprises a dye.

1409. (NEW) The array of claim 1407, wherein said colored compound comprises a dye.

1410. (NEW) The array of claim 1367, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1411. (NEW) The array of claim 1368, wherein a non-radioactive signal from said non-radioactive chemical label or labels is quantifiable or detectable by photometric means.

1412. (NEW) The array of claim 1410, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1413. (NEW) The array of claim 1411, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1414. (NEW) The array of claim 1347, wherein said surface or surfaces are transparent or translucent.

1415. (NEW) A collection or set comprising any of the arrays of any of claims 1347 to 1414.

1416. (NEW) A collection or set comprising the array of claim 1347, wherein said siliceous matter or polymeric material is porous.

1417. (NEW) A collection or set comprising the array of claim 1347, wherein said siliceous matter or polymeric material is non-porous.

1418. (NEW) A collection or set comprising the array of claim 1417, wherein said non-porous siliceous matter or polymeric material is transparent or translucent.

1419. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises the arrays of any of claims 1347-1414.

1420. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a collection or set of any of the arrays of claims 1347-1414.

1421. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises an array comprising a porous substrate having surfaces, each surface comprising at least one nucleic acid strand fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface.

1422. (NEW) The system of claim 1421, wherein said porous substrate comprises polymeric material.

1423. (NEW) The system of claim 1422, wherein said polymeric material comprises dextran or nitrocellulose.

1424. (NEW) The system of claim 1421, wherein said porous substrate comprises porous glass.

1425. (NEW) A composition of matter comprising a substrate having a plurality of surfaces, each surface comprising at least one double-stranded nucleic acid fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface, and wherein said surfaces comprise siliceous matter or polymeric material.

1426. (NEW) The composition of claim 1425, wherein said siliceous matter comprises glass.

1427. (NEW) The composition of claim 1426, wherein said glass is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads and a collection or set of said plates, wells, depressions, tubes, cuvettes or beads.

1428. (NEW) The composition of claim 1427, wherein said wells comprise microtiter wells.

1429. (NEW) The composition of claim 1425, wherein said polymeric material is non-porous.

1430. (NEW) The composition of claim 1425, wherein said polymeric material comprises plastic.

1431. (NEW) The composition of claim 1430, wherein said plastic is selected from the group consisting of polyethylene, polypropylene, polystyrene and polyepoxide.

1432. (NEW) The composition of claim 1430, wherein said plastic is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection or set of said plates, wells, depressions, tubes, cuvettes or beads.

1433. (NEW) The composition of claim 1432, wherein said wells comprise microtiter wells.

1434. (NEW) The composition of claim 1425, wherein said siliceous matter or polymeric material comprises porous glass.

1435. (NEW) The composition of claim 1425, wherein said surface or surfaces have been treated with a surface treatment agent.

1436. (NEW) The composition of claim 1435, wherein said surface treatment agent is selected from the group consisting of an amine compound and an epoxy compound.

1437. (NEW) The composition of claim 1436, wherein said amine compound is selected from the group consisting of duodecadiamine (DDA), polylysine (PPL), γ -aminopropyltriethoxysilane, ammonium acetate and a combination of any of the foregoing.

1438. (NEW) The composition of claim 1436, wherein said surface treatment agent comprises an epoxy compound.

1439. (NEW) The composition of claim 1425, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized to said surface or surfaces by a means selected from the group consisting of an amine compound and an epoxy compound.

1440. (NEW) The composition of claim 1425, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized directly or indirectly to said surface or surfaces.

1441. (NEW) The composition of claim 1425, wherein one strand of each of said double-stranded nucleic acid strands is fixed or immobilized directly or indirectly to said surface or surfaces.

1442. (NEW) The composition of claim 1425, wherein said double-stranded nucleic acid strands are fixed or immobilized to said surfaces by sandwich hybridization.

1443. (NEW) The composition of claim 1425, wherein said nucleic acid strands are selected from the group consisting of single-stranded nucleic acid and double-stranded nucleic acid.

1444. (NEW) The composition of claim 1425, wherein said nucleic acid strands are selected from the group consisting of DNA, RNA and a DNA-RNA hybrid.

1445. (NEW) The composition of claim 1425, wherein said at least one nucleic acid strand or a sequence therefrom comprises a nucleic acid sequence complementary to a nucleic acid sequence of interest or sought to be identified or quantified or sequenced.

1446. (NEW) The composition of claim 1445, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises a member selected from the group consisting of a gene or gene sequence, a pathogen or pathogenic sequence, and a combination of any of the foregoing.

1447. (NEW) The composition of claim 1445, wherein said complementary nucleic acid sequence or sequences are unlabeled.

1448. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels are the non-radioactive signaling moiety or moieties.

1449. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said composition of matter or said substrate or said surfaces or a system or a collection or set containing said composition of matter or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1450. (NEW) The composition of claim 1448, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said composition of matter or said substrate or said surfaces or a system or a collection or set containing said composition of matter or said substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1451. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1452. (NEW) The composition of claim 1448, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1453. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1454. (NEW) The composition of claim 1448, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1455. (NEW) The composition of claim 1453, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1456. (NEW) The composition of claim 1454, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1457. (NEW) The composition of claim 1455, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1458. (NEW) The composition of claim 1456, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1459. (NEW) The composition of claim 1457, wherein said bridging entity or complex is covalently or non-covalently attached.

1460. (NEW) The composition of claim 1458, wherein said bridging entity or complex is covalently or non-covalently attached.

1461. (NEW) The composition of claim 1459, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1462. (NEW) The composition of claim 1460, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1463. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are covalently or non-covalently attached thereto.

1464. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are directly attached thereto.

1465. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are indirectly attached thereto.

1466. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1467. (NEW) The composition of claim 1466, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1468. (NEW) The composition of claim 1448, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1469. (NEW) The composition of claim 1468, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1470. (NEW) The composition of claim 1425, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive signaling moiety or moieties.

1471. (NEW) The composition of claim 1448, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive chemical label or labels.

1472. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties are directly produced.

1473. (NEW) The composition of claim 1472, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1474. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1475. (NEW) The composition of claim 1474, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1476. (NEW) The composition of claim 1475, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1477. (NEW) The composition of claim 1448, wherein said non-radioactive signaling moiety or moieties are directly produced.

1478. (NEW) The composition of claim 1477, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1479. (NEW) The composition of claim 1448, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1480. (NEW) The composition of claim 1479, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1481. (NEW) The composition of claim 1480, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1482. (NEW) The composition of claim 1425, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagenic compound, a fluorescent compound and a chemiluminescent compound.

1483. (NEW) The composition of claim 1448, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagen compound, a fluorescent compound and a chemiluminescent compound.

1484. (NEW) The composition of claim 1425, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1485. (NEW) The composition of claim 1448, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1486. (NEW) The composition of claim 1425, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1487. (NEW) The composition of claim 1448, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1488. (NEW) The composition of claim 1486, wherein said colored compound comprises a dye.

1489. (NEW) The composition of claim 1487, wherein said colored compound comprises a dye.

1490. (NEW) The composition of claim 1425, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1491. (NEW) The composition of claim 1448, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1492. (NEW) The composition of claim 1490, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1493. (NEW) The composition of claim 1491, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1494. (NEW) The composition of claim 1425, wherein said surface or surfaces are transparent or translucent.

1495. (NEW) A collection or set comprising the compositions of any of claims 1425-1494.

1496. (NEW) A collection or set comprising the composition of claim 1425, wherein said siliceous matter or polymeric material is porous.

1497. (NEW) A collection or set comprising the composition of claim 1425, wherein said siliceous matter or polymeric material is non-porous.

1498. (NEW) The collection or set of claim 1497, wherein said non-porous siliceous matter or polymeric material is transparent or translucent.

1499. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises the compositions of any of claims 1425-1494.

1500. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a collection or set of the compositions of any of claims 1425-1494.

1501. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a composition of matter comprising a porous substrate having a plurality of surfaces, each surface comprising at least one double-stranded nucleic acid fixed or immobilized thereto, wherein at least one nucleic acid strand or a sequence therefrom comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable, wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface.

1502. (NEW) The system of claim 1501, wherein said porous substrate comprises polymeric material.

1503. (NEW) The system of claim 1502, wherein said polymeric material comprises dextran or nitrocellulose.

1504. (NEW) The system of claim 1501, wherein said porous substrate comprises porous glass.

1505. (NEW) A composition of matter comprising a non-porous substrate having a plurality of surfaces, each surface comprising at least one nucleic acid strand fixed or immobilized thereto, and wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface, and wherein said surfaces comprise siliceous matter or polymeric material.

1506. (NEW) The composition of claim 1505, wherein siliceous matter comprises glass.

1507. (NEW) The composition of claim 1506, wherein said glass is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection or set of said plates, wells, depressions, tubes, cuvettes and beads.

1508. (NEW) The composition of claim 1507, wherein said wells comprise microtiter wells.

1509. (NEW) The composition of claim 1505, wherein said polymeric material is plastic.

1510. (NEW) The composition of claim 1509, wherein said plastic is selected from the group consisting of polyethylene, polypropylene, polystyrene and polyepoxide.

1511. (NEW) The composition of claim 1509, wherein said plastic is selected from the group consisting of plates, wells, depressions, tubes, cuvettes, beads, and a collection of said plates, wells, depressions, tubes, cuvettes and beads.

1512. (NEW) The composition of claim 1511, wherein said wells comprise microtiter wells.

1513. (NEW) The composition of claim 1505, wherein said surface or surfaces have been treated with a surface treatment agent.

1514. (NEW) The composition of claim 1513, wherein said surface treatment agent is selected from the group consisting of an amine compound and an epoxy compound.

1515. (NEW) The composition of claim 1514, wherein said amine compound is selected from the group consisting of duodecadiamine (DDA), polylysine (PPL), γ -aminopropyltriethoxysilane, ammonium acetate and a combination of any of the foregoing.

1516. (NEW) The composition of claim 1514, wherein said surface treatment agent comprises an epoxy compound.

1517. (NEW) The composition of claim 1505, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized to said surface or surfaces by a means selected from the group consisting of an amine compound and an epoxy compound.

1518. (NEW) The composition of claim 1505, wherein said at least one nucleic acid strand or a sequence therefrom has been fixed or immobilized directly or indirectly to said surface or surfaces.

1519. (NEW) The composition of claim 1505, wherein said nucleic acid strands are selected from the group consisting of single-stranded nucleic acid and double-stranded nucleic acid.

1520. (NEW) The composition of claim 1505, wherein said nucleic acid strands are selected from the group consisting of DNA and RNA.

1521. (NEW) The composition of claim 1505, wherein said at least one nucleic acid strand or a sequence therefrom comprises a nucleic acid sequence complementary to a nucleic acid sequence of interest or sought to be identified or quantified or sequenced.

1521. (NEW) The composition of claim 1521, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises a member selected from the group consisting of a gene or gene sequence, a pathogen or pathogenic sequence, and a combination of any of the foregoing.

1522. (NEW) The composition of claim 1521, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises one or more non-radioactive chemical labels which comprise a non-radioactive signaling moiety or moieties which are quantifiable or detectable.

1523. (NEW) The composition of claim 1522, wherein said non-radioactive chemical label or labels are the non-radioactive signaling moiety or moieties.

1524. (NEW) The composition of claim 1505, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said composition of matter or said non-porous substrate or said surfaces or a system or a collection or set containing said composition of matter or said non-porous substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1525. (NEW) The composition of claim 1523, wherein said non-radioactive chemical label or labels comprise a non-radioactive signaling moiety or moieties which are quantifiable in or from a fluid or solution or in or through said composition of matter or said non-porous substrate or said surfaces or a system or a collection or set containing said composition of matter or said non-porous substrate or said surfaces, said quantity being proportional to the amount or quantity of said label or labels.

1526. (NEW) The composition of claim 1522, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1527. (NEW) The composition of claim 1523, wherein said non-radioactive chemical label or labels are attached covalently to said at least one nucleic acid strand or a sequence therefrom.

1528. (NEW) The composition of claim 1522, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1529. (NEW) The composition of claim 1523, wherein said non-radioactive chemical label or labels are attached directly or indirectly to said at least one nucleic acid strand or a sequence therefrom.

1530. (NEW) The composition of claim 1528, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1531. (NEW) The composition of claim 1529, wherein said direct or indirect attachment is through one or more nucleotides in said at least one nucleic acid strand or a sequence therefrom.

1532. (NEW) The composition of claim 1530, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1533. (NEW) The composition of claim 1531, wherein said attachment is indirectly through a bridging entity or a formation of a complex.

1534. (NEW) The composition of claim 1532, wherein said bridging entity or complex is covalently or non-covalently attached.

1535. (NEW) The composition of claim 1533, wherein said bridging entity or complex is covalently or non-covalently attached.

1536. (NEW) The composition of claim 1534, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1537. (NEW) The composition of claim 1535, wherein said bridging entity or complex is selected from the group consisting of biotin and avidin, biotin and streptavidin, a sugar and a lectin, and an antigen and an antibody.

1538. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are covalently or non-covalently attached thereto.

1539. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are directly attached thereto.

1540. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties of said non-radioactive chemical label or labels are indirectly attached thereto.

1541. (NEW) The composition of claim 1522, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1542. (NEW) The composition of claim 1541, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1543. (NEW) The composition of claim 1523, wherein said non-radioactive chemical label or labels comprise indicator molecules.

1544. (NEW) The composition of claim 1543, wherein said indicator molecules are selected from the group consisting of a chromagenic compound, a fluorescent compound, a chemiluminescent compound and a combination of any of the foregoing.

1545. (NEW) The composition of claim 1522, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive signaling moiety or moieties.

1546. (NEW) The composition of claim 1523, wherein a quantifiable or detectable non-radioactive signal is generated or generatable directly or indirectly from said non-radioactive chemical label or labels.

1547. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties are directly produced.

1548. (NEW) The composition of claim 1547, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1549. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1550. (NEW) The composition of claim 1549, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1551. (NEW) The composition of claim 1550, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1552. (NEW) The composition of claim 1523, wherein said non-radioactive signaling moiety or moieties are directly produced.

1553. (NEW) The composition of claim 1552, wherein said directly produced non-radioactive signaling moiety or moieties comprise a member selected from the group consisting of a chromagen, a fluorogen and chemiluminescent compound.

1554. (NEW) The composition of claim 1523, wherein said non-radioactive signaling moiety or moieties are indirectly produced.

1555. (NEW) The composition of claim 1554, wherein said non-radioactive signaling moiety or moieties are indirectly produced by an enzyme or enzymatic reaction.

1556. (NEW) The composition of claim 1555, wherein said enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, peroxidase, β -D-galactosidase and glucose oxidase.

1557. (NEW) The composition of claim 1522, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagenic compound, a fluorescent compound and a chemiluminescent compound.

1558. (NEW) The composition of claim 1523, wherein said non-radioactive signaling moiety or moieties are selected from the group consisting of an enzyme, a co-enzyme, a chelating compound, a chromagen compound, a fluorescent compound and a chemiluminescent compound.

1559. (NEW) The composition of claim 1522, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1560. (NEW) The composition of claim 1523, wherein a non-radioactive signal is generated or generatable from said non-radioactive chemical label or labels by a means selected from the group consisting of chromagenic means, fluorescent means and chemiluminescent means.

1561. (NEW) The composition of claim 1522, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1562. (NEW) The composition of claim 1523, wherein said non-radioactive chemical label or labels are selected from the group consisting of a colored compound, a chemiluminescent compound and a fluorescent compound.

1563. (NEW) The composition of claim 1561, wherein said colored compound comprises a dye.

1564. (NEW) The composition of claim 1562, wherein said colored compound comprises a dye.

1565. (NEW) The composition of claim 1522, wherein a non-radioactive signal from said non-radioactive signaling moiety or moieties is quantifiable or detectable by photometric means.

1566. (NEW) The composition of claim 1523, wherein a non-radioactive signal from said non-radioactive chemical label or labels is quantifiable or detectable by photometric means.

1567. (NEW) The composition of claim 1565, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1568. (NEW) The composition of claim 1566, wherein said photometric means are selected from the group consisting of photometric techniques, spectrophotometric techniques, colorimetric techniques, fluorometric techniques and chemiluminescent techniques.

1569. (NEW) The composition of claim 1505, wherein said surface or surfaces are transparent or translucent.

1570. (NEW) A collection or set comprising the compositions of any of claims 1505-1569.

1571. (NEW) A collection or set comprising the composition of claim 1505, wherein said siliceous matter or polymeric material is non-porous.

1572. (NEW) A collection or set comprising the composition of claim 1505, wherein said surface or surfaces are transparent or translucent.

1573. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises the compositions of any of claims 1505-1569.

1574. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a collection or set of the compositions of any of claims 1505-1569.

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Page 48 [Amendment Under 37 C.F.R. §1.116 (In Response To The
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1575. (NEW) A non-porous system for retaining or containing a fluid or solution, which system comprises a composition of matter comprising a non-porous substrate having a plurality of surfaces, each surface comprising at least one nucleic acid strand fixed or immobilized thereto, and wherein at least one nucleic acid strand or a sequence therefrom in one of said surfaces is different from at least one other nucleic acid strand or a sequence therefrom in another surface, and wherein said surfaces comprise siliceous matter or polymeric material.

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